

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Christof Strohhofer, Albert Polman  
 Assignee: Symmorphix, Inc.  
 Title: Silver Sensitized Erbium Ion Doped Planar Wave Guide Amplifier  
 Application No.: 09/994,578 Filing Date: November 26, 2001  
 Examiner: Unknown Group Art Unit: Unknown  
 Docket No.: M-12246 US

#5910  
5-16-02

COMMISSIONER FOR PATENTS  
 Washington, D.C. 20231

**INFORMATION DISCLOSURE STATEMENT  
 UNDER 37 CFR § 1.97(b)**

Receivd  
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May 8, 2002

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Dear Sir:

Pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98, the documents listed on the accompanying form PTO-1449 are called to the attention of the Examiner for the above patent application. Copies of these documents are enclosed.

Citation of these documents shall not be construed as:

1. an admission that the documents are necessarily prior art with respect to the instant invention;
2. a representation that a search has been made, ; or
3. an admission that the information cited herein is, or is considered to be, material to patentability as defined in § 1.56(b).

EXPRESS MAIL LABEL NO:

EL 859651153 US

Respectfully submitted,

*Linda Gunderson*

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U.S. Department of Commerce, Patent and Trademark Office				Atty Docket No.		Serial No.	
				M-12246 US		09/994,578	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Applicant(s)			
(Use several sheets if necessary)				Strohhofer, Christof et al			
				Filing Date		Group	
				November 26, 2001		Unknown	

U.S. Patent Documents							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
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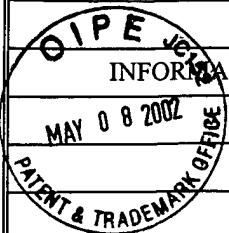
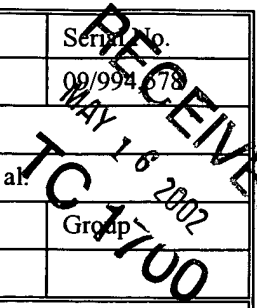
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
AQ	C. Strohhofer, A. Polman, "Energy transfer to $\text{Er}^{3+}$ in Ag ion-exchanged glass", FOM Institute for Atomic and Molecular Physics, 10 pages	
AR	Mesnaoui et al., "Spectroscopic properties of $\text{AG}^+$ ions in phospage glasses of $\text{NaPO}_3\text{-AgPO}_3$ system", EUROPEAN JOURNAL OF SOLID STATE AND INORGANIC CHEMISTRY, Vol. 29, pages 1001-1013, 1992, 14 pages	
AS	P. Laporta et al., "Diode-pumped cw bulk Er: Yb: glass laser", 1952 Optics Letters/ Vol. 16, No. 24/ Dec. 15, 1991, 6 pages	

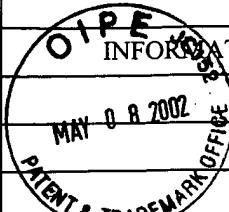
  

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	AQ	Michael R. Lange et al., "High Gain Ultra-Short Length Phosphate Glass Erbium-Doped Fiber Amplifier Material", OSA Optial Fiber Communications (OFC) 2002, 3 pages							
	AR	Barbier, D. et al., "Amplifying Four-Wavelength Combiner, Based on Erbium/Ytterbium-Doped Waveguide Amplifiers and Integrated Splitters", IEEE PHOTONICS TEHCNOLGY LETTERS, Vol. 9, pages 315-317, 1997, 4 pages							
	AS	L. H. Slooff et al., "Optical properties of Erbium-doped organic polydentate cage complexes", J. Appl. Phys. 83, Jan. 1998, pages 497-503							
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	AQ	Fujii et al., "1.54 $\mu\text{m}$ photoluminescence of $\text{Er}^{3+}$ doped into $\text{SiO}_2$ films containing Si nanocrystals: Evidence for energy transfer from Si nanocrystals to $\text{Er}^{3+}$ ", Appl. Phys. Lett. 71 (9), September 1997, pages 1198-1200							
	AR	Ramaswamy et al., "Ion-Exchanged Glass Waveguides: A Review", Journal of Lightwave Technology, Vol. 6 No. 6, pages 984-1001, 1988							
	AS	Meijerink et al., LUMINESCENCE OF $\text{Ag}^+$ IN CRYSTALLINE AND GLASSY $\text{SrB}_4\text{O}_7$ , Journal of Physics and Chemistry of Solids, Vol. 54, No. 8, pages 901-906, 1993							
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	AQ	Hayakawa et al., "Enhanced fluorescence from Eu <sup>3+</sup> owing to surface plasma oscillation of silver particles in glass", Journal of Non-Crystalline Solids 259, pages 16-22, 1999							
	AR	Hayakawa et al., "Field enhancement effect of small Ag particles on the fluorescence from Eu <sup>3+</sup> -doped SiO <sub>2</sub> glass", Applied Physics Letters, Vol. 74, No. 11, 15 March 1999, Pages 1513-1515							
	AS	Peters et al., "Formation mechanism of silver nanocrystals made by ion irradiation of Na <sup>+</sup> ↔ Ag <sup>+</sup> ion-exchanged sodalime silicate glass", Nuclear Instruments and Methods in Physics Research B 168, (2000), pages 237-244							
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AQ	Borsella, E., "Structural incorporation of silver in soda-lime glass by the ion-exchange process: a photoluminescence spectroscopy study", Applied Physics A 71, pages 125-132, 2000	
AR	Villegas et al., "Optical spectroscopy of a soda lime glass exchanged with silver", Physics and Chemistry of Glasses 37(6), 1996, pages 248-253	
AS	Flytzanis et al., "Nonlinear Optics in Composite Materials", E. Wolf, Progress in Optics XXIX © Elsevier Science Publishers B.V., 1991, pages 323-425	

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AQ	Ohtsuki et al., "Gain Characteristics of a high concentration Er <sup>3+</sup> -doped phosphate glass waveguide", J. Appl. Phys. 78(6), Physics, 1995, pages 3617-3621
AR	Delavaux et al., "Integrated optics erbium ytterbium amplifier system in 10 Gb/s fiber transmission experiment", 22 <sup>nd</sup> European Conference on optical Communication-ECOC'96, Oslo, 4 pages
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